ABSTRACT

Tunnel is provided for conditioning of food products, especially for sterilization of food in containers or vessels of the heat-sealed type, in which the conditioning unit has: 1) an active pressure control system corresponding to at least one heating stage, which provides for balancing of the pressure within the heat-sealed vessels or containers; and 2) a conveyor which conveys the heat-sealed vessels or containers through the stages along the conditioning unit which contains mechanisms that move the conveyor outside of the conditioning tunnel, and 3) doors operating like check valves that separate the stages of the conditioning unit; and 4) a cross section of the tunnel of the polygonal type; and 5) the conditioning unit including inlets for introduction of washing liquids with a corresponding discharge outlet. Preferably, the magnetrons are covered to protect each magnetron from liquids. In preferred embodiments, the conditioning tunnel includes temperature sensors for measuring the temperature of products within the tunnel. Moreover, preferably the conveyor is adjustable to move forward and rearward, and the magnetrons are adjustable to provide a controllably moveable magnetic field. A controller is connected to the temperature sensors, conveyor and magnetrons to cause the conveyor to move products forward or rearward, or cause the magnetrons to move the magnetic field relative to the food products to more thoroughly and evenly cook the food products.